

CWD Update 83

December 21, 2006

State and Provincial Updates

Alberta:

Alberta has recorded two more cases of chronic wasting disease (CWD) in wild deer after hunters recently turned in the heads for testing. This brings the total to 15 cases of CWD confirmed in wild deer in Alberta since the first case in September 2005. The two new cases involve deer harvested during the recent hunting season in areas monitored for CWD. A male mule deer from wildlife management unit (WMU) 151 along the Red Deer River tested positive. As well, a female mule deer was taken in WMU 234, west of Edgerton. The first case was near previously known cases; the second case occurred next to a part of Saskatchewan where positive wild and farmed deer have been found.

Alberta Sustainable Resource Development's CWD information is at:

<http://www.srd.gov.ab.ca/fw/diseases/CWD/index.html>.

A map showing the locations of Alberta CWD+ animals is at:

http://www.srd.gov.ab.ca/fw/diseases/CWD/pdf/CWD_positive_Dec2006.pdf.

Illinois:

A hunter-harvested white-tailed deer taken in southern Dekalb County has tested positive for CWD. The 2.5 year old male was taken approximately 20 miles south of previously-detected cases in Dekalb County. A special CWD hunt is scheduled for affected Illinois counties January 12-14, 2007. The hunt area has been extended to include all of Dekalb County.

Illinois Department of Natural Resources CWD information (including maps) is at:

<http://dnr.state.il.us/cwd>.

Nebraska:

Bruce Trindle of Nebraska Game & Parks Commission provides the following: A total of 5,822 retropharyngeal lymph nodes was collected during the firearm deer season November 11 through November 19. These lymph nodes were submitted to the University of Nebraska Veterinary Diagnostic Center for analysis. Elisa tests confirmed 14 positive deer; 6 mule deer males, 2 mule deer females, 5 white-tailed males, and 1 white-tailed female.

Maps showing the distribution of 2006 and cumulative CWD cases are at the end of this update.

Nebraska Game & Parks Commission CWD information is at:

<http://www.ngpc.state.ne.us/wildlife/guides/CWD/cwd.asp>.

South Dakota:

Steve Griffin of South Dakota Game, Fish, and Parks provides the following: In the South Dakota CWD Surveillance period of July 1, 2006 to December 5, 2006, a total of 1,911 samples were collected for CWD surveillance. Breakdown of the sampling is as follows:

507 elk sampled - 444 Not Positive - 61 results pending - 2 positive elk detected:

(1) hunter-harvested female elk from Unit H3A in Custer County; and

(2) hunter-harvested female elk from Custer State Park Unit CU2 in Custer County.

415 mule deer sampled - 284 Not Positive - 131 results pending.

989 white-tailed deer sampled - 589 Not Positive - 400 results pending.

To date, South Dakota has found 49 cases of CWD (32 deer and 17 elk) in free ranging deer and elk since testing began in 1997 (2006 results are not yet complete). Wind Cave National Park accounts for 16 of these animals (8 elk, 8 deer). A total of 14,216 wild deer and elk have been tested for CWD since 1997.

South Dakota Game, Fish, and Parks CWD information is at:
<http://www.sdgifp.info/Wildlife/hunting/BigGame/CWD.htm>.

Miscellaneous

USDA APHIS CWD Rule – Comments due January 3, 2007

On November 21, 2006, the Animal Plant and Health Inspection Service announced a one month extension of the period during which it will accept comments on petitions it received with respect to the "CWD Final Rule" published in July 2006. The new end-date for comments is January 3, 2007. The URL for the announcement is:

<http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/E6-19662.htm>.

Rendering

Shortly prior to the main 2006 firearms deer season, the Wisconsin DNR was notified by a national rendering company that they would not accept carcasses from deer that had been tested for CWD. The company would continue to accept deer carcasses, as long as they had not been tested. The company cited guidance for rendering issued by FDA in 2003 as their rationale for not accepting tested carcasses. The FDA document (Guidance for Industry - Use of Material from Deer and Elk in Animal Feed) is at: <http://www.fda.gov/cvm/Guidance/guide158.pdf>. This situation negatively impacted WI DNR efforts to obtain adequate surveillance samples from the west-central portion of the state. The DNR attempted to notify all hunters, prior to collecting tissue samples, that some butchers (those serviced by the rendering company) may not accept their deer. Unfortunately, a small number of hunters apparently were not notified (things tend to get pretty hectic at check stations) and subsequently had difficulty getting their deer processed. The DNR has apologized to affected hunters, and has pledged to do a better job informing hunters if this situation occurs next year.

Recent Publications

Dynamics of Prion Disease Transmission in Mule Deer.

Michael W. Miller, N. Thompson Hobbs, and Simon J. Taverne
Ecological Applications: Vol. 16, No. 6, pp. 2208–2214.

Abstract: Chronic wasting disease (CWD), a contagious prion disease of the deer family, has the potential to severely harm deer populations and disrupt ecosystems where deer occur in abundance. Consequently, understanding the dynamics of this emerging infectious disease, and particularly the dynamics of its transmission, has emerged as an important challenge for contemporary ecologists and wildlife managers. Although CWD is contagious among deer, the relative importance of pathways for its transmission remains unclear. We developed seven competing models, and then used data from two CWD outbreaks in captive mule deer and model selection to compare them. We found that models portraying indirect transmission through the

environment had 3.8 times more support in the data than models representing transmission by direct contact between infected and susceptible deer. Model-averaged estimates of the basic reproductive number (R_0) were 1.3 or greater, indicating likely local persistence of CWD in natural populations under conditions resembling those we studied. Our findings demonstrate the apparent importance of indirect, environmental transmission in CWD and the challenges this presents for controlling the disease.

<http://www.esajournals.org/esaonline/?request=get-abstract&issn=1051-0761&volume=016&issue=06&page=2208>

Oral Transmission of Chronic Wasting Disease in Captive Shira's Moose.

Terry J. Kreeger, D. L. Montgomery, Jean E. Jewell, Will Schultz and Elizabeth S. Williams
Journal of Wildlife Diseases, 42(3), 2006, pp. 640-645.

Abstract: Three captive Shira's moose (*Alces alces shirasi*) were orally inoculated with a single dose (5 g) of whole-brain homogenate prepared from chronic wasting disease (CWD)-affected mule deer (*Odocoileus hemionus*). All moose died of causes thought to be other than CWD. Histologic examination of one female moose dying 465 days postinoculation revealed spongiform change in the neuropil, typical of transmissible spongiform encephalopathy. Immunohistochemistry staining for the proteinase-resistant isoform of the prion protein was observed in multiple lymphoid and nervous tissues. Western blot and enzyme-linked immunosorbent assays provided additional confirmation of CWD. These results represent the first report of experimental CWD in moose.

<http://www.jwildlifedis.org/cgi/content/abstract/42/3/640>.

Potential Role of Soil in the Transmission of Prion Disease.

P. T. Schramm, C. J. Johnson, N. E. Mathews, D. McKenzie, J. M. Aiken and J. A. Pedersen
Reviews in Mineralogy and Geochemistry; January 2006; v. 64; 1; p. 135-152; DOI: 10.2138/rmg.2006.64.5.

No abstract.

This is an excellent review article, including sections on etiology of prion diseases, resistance of prions to inactivation, environmental reservoirs of prion infectivity (epizootiological and experimental evidence), introduction of prions into soil environments, persistence of prions in soil, binding of prions to soils and soil components, retention of bioactivity by prions in soil, mobility of prions in soil, animal exposure through soil ingestion, and levels of infectivity in soils.

<http://rimg.geoscienceworld.org/cgi/content/extract/64/1/135>.

Upcoming Conferences

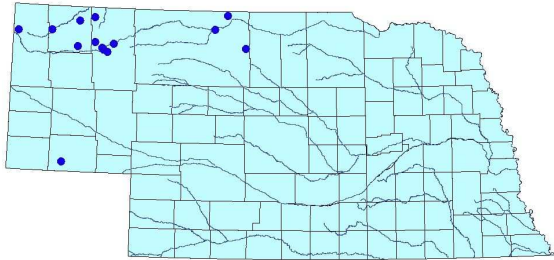
Transmissible Spongiform Encephalopathies: The Definitive American TSE Meeting

February 12-13, 2007, Baltimore, Maryland

<http://www.healthtech.com/2007/tse/index.asp>

Maps of 2006 and cumulative Nebraska CWD locations:

 CWD November Firearm Positives
2006



Free Ranging CWD Positives

